

DOCKET NO.: LCTD-0035

PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Tina-Liisa Rasanen, et al.

Application No.: 10/731,626

Filing Date: December 9, 2003

Confirmation No.: Not Yet Assigned

Group Art Unit: Not Yet Assigned

Examiner: Not Yet Assigned

**For: METHODS FOR THE TREATMENT AND PREVENTION OF
PANCREATITIS AND FOR INDUCTION OF LIVER REGENERATION**

DATE OF DEPOSIT: *March 25, 2004*

I HEREBY CERTIFY THAT THIS PAPER IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL, POSTAGE PREPAID, ON THE DATE INDICATED ABOVE AND IS ADDRESSED TO THE UNITED STATES PATENT AND TRADEMARK OFFICE, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450.

TYPED NAME: Elizabeth A. McLoud

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 CFR § 1.56 and in accordance with 37 CFR §§ 1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 CFR § 1.56(b).



In accordance with § 1.97(b), since this Information Disclosure Statement is being filed either within three months of the filing date of the above-identified application, within three months of the date of entry into the national stage of

the above identified application as set forth in § 1.491, before the mailing date of a first Office Action on the merits of the above-identified application, or before the mailing date of a first Office Action after the filing of request for continued examination under § 1.114, no additional fee is required.

- ☐ In accordance with § 1.129(a), this Information Disclosure Statement is being filed in connection with ☐ the first or ☐ second After Final Submission, therefore:

☐ Certification in Accordance with § 1.97(e) is attached; or

☐ The fee of **\$180.00** as set forth in § 1.17(p) is attached.

- ☐ In accordance with § 1.97(c), this Information Disclosure Statement is being filed after the period set forth in § 1.97(b) above but before the mailing date of either a Final Action under § 1.113 or a Notice of Allowance under § 1.311, or before an action that otherwise closes prosecution in the application, therefore:

☐ Certification in Accordance with § 1.97(e) is attached;
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☐ The fee of **\$180.00** as set forth in § 1.17(p) is attached.

- ☐ In accordance with § 1.97(d), this Information Disclosure Statement is being filed after the mailing date of either a Final Action under § 1.113 or a Notice of Allowance under § 1.311 but before, or simultaneously with, the payment of the Issue Fee, therefore included are: Certification in Accordance with § 1.97(e); and the submission fee of **\$180.00** as set forth in § 1.17(p).

- ☐ Copies of each of the references listed on the attached Form PTO-1449 are enclosed herewith.

- ☒ Copies of references listed on the attached Form PTO-1449 are enclosed herewith
- ☐ Copies of references listed on the attached Form PTO 1449 are not required to be submitted pursuant to the June 30, 2003 recent revisions to 37 CFR § 1.98(a)(2)(i).

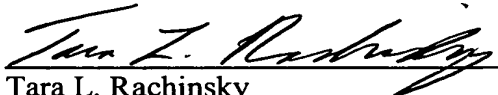
EXCEPT THAT:

- ☒ In view of the voluminous nature of references 7 and 28, and the likelihood that these references are available to the Examiner, copies are not enclosed herewith.
- ☐ In accordance with § 1.98(d), copies of the following references listed on the attached Form PTO-1449 are not enclosed herewith because they were previously cited by or submitted to the U.S. Patent and Trademark Office in patent application(s) for which a claim for priority under 35 U.S.C. § 120 have been made in the instant application:
- ☐ Copies of references [list as appropriate] listed on the attached Form PTO-1449 were previously cited by or submitted to the Patent and Trademark Office in prior Application No. _____, filed _____.

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- ☐ The relevance of those listed references which are not in the English language is as follows:
- ☒ There are no listed references which are not in the English language.

Date: *March 25, 2004*


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Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. LCTD-0035	Application No. 10/731,626
		Applicant Tiina-Liisa Räsänen, et al.	
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	1	Alhonen, L., et al., "Polyamines are required for the initiation of rat liver regeneration," <i>Biochem. J.</i> , 2002 , <i>362</i> , 149-153	
	2	Alhonen, L., et al., "Activation of polyamine catabolism in transgenic rats induces acute pancreatitis," <i>J. Proc. Natl. Acad. Sci. USA</i> , July 18, 2000 , <i>97(15)</i> , 8290-8295	
	3	Bernacki, R.J., et al., "Antitumor activity of <i>N,N'</i> -Bis(ethyl)spermine homologues against human MALME-3 melanoma xenografts," <i>Cancer Res.</i> , May 1, 1992 , <i>52</i> , 2424-2430	
	4	Bernacki, R.J., et al., "Preclinical antitumor efficacy of the polyamine analogue <i>N</i> ¹ <i>N</i> ¹¹ -diethylnorspermine administered by multiple injection or continuous infusion," <i>Clin. Cancer Res.</i> , August 1995 , <i>1</i> , 847-848	
	5	Bolkenius, F.N., et al., "Specific inhibition of polyamine oxidase in vivo is a method for the elucidation of its physiological role," <i>Biochim. Biophys. Acta</i> , 1985 , <i>838</i> , 69-76	
	6	Casero, R.A., et al., "Spermidine/spermine N1-acetyltransferase – the turning point in polyamine metabolism," <i>FASEB J.</i> , 1993 , <i>7</i> , 653-661	
*	7	Greene, T.W., et al., P.G.M., <i>Protective Groups in Organic Synthesis</i> , 3 rd Ed., <i>Wiley & Sons</i> , 1999	
	8	Hakovirta, H., et al., "Polyamines and regulation of spermatogenesis: selective stimulation of late spermatogonia in transgenic mice overexpressing the human ornithine decarboxylase gene," <i>Mol. Endocrinol.</i> , 1993 , <i>7</i> , 1430-1436	
	9	Halmekytö, M., et al., "Transgenic mice over-producing putrescine in their tissues do not convert the diamine into higher polyamines," <i>Biochem. J.</i> , 1993 , <i>291</i> , 505-508	
	10	Halmekytö, M., et al., "Transgenic mice aberrantly expressing human ornithine decarboxylase gene," <i>J. Biol. Chem.</i> , October 15, 1991 , <i>266(29)</i> , 19746-19751	
EXAMINER		DATE CONSIDERED	

* A copy of this reference will not be forwarded to the U.S. Patent and Trademark Office since it is believed to be too voluminous and easily obtainable by the Examiner.



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	11	Higgins, G.H., et al., "Experimental pathology of the liver," <i>Arch. of Pathol.</i> , January 20, 1931, 12, 186-202		
	12	Hölttä, E., "Oxidation of spermidine and spermine in rat liver: purification and properties of polyamine oxidase," <i>Biochemistry</i> , 1977, 16(1), 91-100		
	13	Hyvönen, T., et al., "Monitoring of the uptake and metabolism of aminooxy analogues of polyamines in cultured cells by high-performance liquid chromatography," <i>J. of Chromatogr.</i> , 1992, 574, 17-21		
	14	Imrie, C.W., et al., "A prospective study of acute pancreatitis," <i>Br. J. Surg.</i> , 1975, 62, 490-494		
	15	Jacobs, M.L., et al., "Acute pancreatitis: Analysis of factors influencing survival," <i>Ann. Surg.</i> , 1977, 185, 43-51		
	16	Jänne, J., et al., "Polyamines: from molecular biology to clinical applications," <i>Ann. Of Med.</i> , 1991, 23, 241-259		
	17	Jänne, J., et al., "On the purification of L-ornithine decarboxylase from rat prostate and effects of thiol compounds on the enzyme," <i>J. Biol. Chem.</i> , March 25, 1971, 246(6), 1725-1732		
	18	Khomutov, A.R., et al., "Synthesis of hydroxylamine analogues of polyamines," <i>Tetrahedron</i> , 1996, 52(43), 13751-13766		
	19	Kumazawa, T., et al., "A radioisotopic assay for polyamine oxidase," <i>Anal Biochem</i> , 1990, 188, 105-108		
	20	Lakanen, J.R., et al., "α-Methyl polyamines: metabolically stable spermidine and spermine mimics capable of supporting growth in cells depleted of polyamines," <i>J. Med. Chem.</i> , 1992, 35, 724-734		
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	21	Leach, S.D., et al., "New perspectives on acute pancreatitis," <i>Scan J. Gastroenterol</i> , 1992 , 27 (Suppl. 192), 29-38	
	22	Lukkarinen, J., et al., "Transgenic rats as models for studying the role of ornithine decarboxylase expression in permanent middle cerebral artery occlusion," <i>Stroke</i> , 1997 , 28, 639-645	
	23	Nagarajan, S., et al., "Studies of non-metabolizable polyamines that support growth of SV-3T3 cells depleted of natural polyamines by exposure to α -difluoromethylornithine," <i>Biochem. J.</i> , 1988 , 254, 373-378	
	24	Nagarajan, S., et al., "Chemistry of naturally occurring polyamines. 10. ¹ Nonmetabolizable derivatives of spermine and spermidine," <i>J. Org. Chem.</i> , 1986 , 51, 4856-4861	
	25	Niederau, C., et al., "Beneficial effects of cholecystokinin-receptor blockade and inhibition of proteolytic enzyme activity in experimental acute hemorrhagic pancreatitis in mice," <i>J. Clin. Invest.</i> , 1986 , 78, 1056-1063	
	26	Pietilä, M., et al., "Activation of polyamine catabolism profoundly alters tissue polyamine pools and affects hair growth and female fertility in transgenic mice overexpressing spermidine/spermine N ¹ -acetyltransferase," <i>J. Biol. Chem.</i> , July 25, 1997 , 272, 18746-18751	
	27	Räsänen, T.L., et al., "A polyamine analogue prevents acute pancreatitis and restores early liver regeneration in transgenic rats with activated polyamine catabolism," <i>J. Biol. Chem.</i> , October 18, 2002 , 277(42), 39867-39872	
*	28	Remington's Pharmaceutical Sciences, <i>Mack Pub. Co.</i> , 1980	
	29	Steinberg, W., et al., "Acute pancreatitis," <i>N. Eng. J. Med.</i> , April 28, 1994 , 330, 1198-1210	
	30	Suppola, S., et al., "Overexpression of spermidine/spermine N ¹ -acetyltransferase under the control of mouse metallothionein 1 promoter in transgenic mice: evidence for a striking post-transcriptional regulation of transgene expression by a polyamine analogue," <i>Biochem. J.</i> , 1999 , 338, 311-316	
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	31	Suppola, S., et al., "Concurrent overexpression of ornithine decarboxylase and spermidine/spermine N1-acetyltransferase further accelerates the catabolism of hepatic polyamines in transgenic mice," <i>Biochem. J.</i> , 2001 , 358, 343-348	
	32	Vujcic, S., et al., "Genomic identification and biochemical characterization of the mammalian polyamine oxidase involved in polyamine back-conversion," <i>Biochem. J.</i> , 2003 , 370, 19-28	
	33	Vujcic, S., et al., "Identification and characterization of a novel flavin-containing spermine oxidase of mammalian cell origin," <i>Biochem. J.</i> , 2002 , 367, 665-675	
	34	Wang, Y., et al., "Properties of purified recombinant human polyamine oxidase, PAOh1/SMO," <i>Biochem. Biophys. Res. Commun.</i> , 2003 , 304, 605-611	
	35	Wu, T., et al., "Cloning, sequencing, and heterologous expression of the murine peroxisomal flavoprotein, N1-acetylated polyamine oxidase," <i>J. Biol. Chem.</i> , June 6, 2003 , 278(23), 20514-20525	
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